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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/615,097	07/13/2000	Axel Weyer	HM-345	4062

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EXAMINER

TRAN, LEN

ART UNIT	PAPER NUMBER
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1725

DATE MAILED: 03/13/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

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<b>Office Action Summary</b>	<b>Application No.</b> 09/615,097	<b>Applicant(s)</b> WEYER ET AL.	
	<b>Examiner</b> Len Tran	<b>Art Unit</b> 1725	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 29 January 2002.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1 and 6-11 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,6-11 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All   b) ☐ Some \*   c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                             | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____  |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)         | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____                                    |

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## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

3. Claims 1 and 6-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hohenbichler et al (US 5,577,548) in view of Morwald et al (US 6,209,619).

Hohenbichler et al discloses a method and an apparatus for changing the section of a billet, wherein opposed sides of the billet are in contact with oppositely positioned roll supports arranged below a continuous casting die, wherein the roll supports are comprised of segments having rolls, wherein the rolls are connected with jointed connection (figure 5, col. 5, lines 23-28). The method comprising the steps of advancing sequentially in a direction of continuous

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casting the segments toward the billet in a controlled sequence of adjusting steps for reducing the section of the billet as shown in figure 5, and calculating an adjusting speed of the segments for advancing (col. 5, lines 18-23). The adjusting steps are carried out by hydraulic adjusting devices (col. 5, lines 62-67 through col. 6, lines 1-3). The position of the support segment (4, 5) can be suitably control from the control desk or be establish by a computer (col. 6, lines 55-65). In addition, because of the jointed connections, the adjusting speed of an exit side of one of the segment and the adjusting speed of an inlet side of an adjoining one of the segment in the casting direction are synchronous as shown in the figures.

Hohenbichler et al fail to teach adjusting the segment by the equation  $V = Ds/Ls * V_{cast}$ . However, Hohenbichler et al shows the usage of a control desk or a computer to position the support rollers. The equation described by applicant's invention is obvious since adjusting the segments would require the sectional change, length of the segment, and the current casting speed.

Therefore, it would have been obvious to one of ordinary skill in the art at the time applicant's invention was made to provide the above equation in Hohenbichler et al's method to adjust the support rollers, since such parameters are essential in controlling the thickness of the metal strip.

Hohenbichler et al fail to mention a constant adjusting speed. However, it would have been obvious and conventional to one of ordinary skill in the art that the movement of the guide

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segment should be constant, since this allows a uniform strand withdrawal and avoid strand breakage.

Therefore, it would have been obvious to one of ordinary skill in the art at the time applicant's invention was made to set the guide segment reducing speed constant because this allow a uniform strand withdrawal and prevent the strand from breaking.

Hohenbichler et al also fail to disclose the guide segment moved away from the billet.

However, Morwald et al discloses a method for changing a section of a billet in a continuous casting machine, wherein the segments are moved away from the billet (figure 2) for the purpose of adjusting the thickness of the cast strand.

Therefore, it would have been obvious to one of ordinary skill in the art at the time applicant's invention was made to provide segments that moved away from the billet as taught by Morwald et al, in Hohenbichler et al because this allows the segment to be adjustable based on the desired thickness of the cast strand.

4. Claims 10 and 11 are rejected under 35 U.S.C. 102(b) as anticipated by Hohenbichler et al (US 5,577,548).

Hohenbichler et al discloses a an apparatus for changing the section of a billet, wherein opposed sides of the billet are in contact with oppositely positioned roll supports arranged below a continuous casting die, wherein the roll supports are comprised of segments having rolls, wherein the rolls are connected with jointed connection (figure 5, col. 5, lines 23-28). Figure 5

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shows calculating an adjusting speed of the segments for advancing (col. 5, lines 18-23). The adjusting steps are carried out by hydraulic adjusting devices (col. 5, lines 62-67 through col. 6, lines 1-3). The position of the support segment (4, 5) can be suitably control from the control desk or be establish by a computer (col. 6, lines 55-65). In addition, because of the jointed connections, the adjusting speed of an exit side of one of the segment and the adjusting speed of an inlet side of an adjoining one of the segment in the casting direction are synchronous as shown in the figures.

### ***Response to Arguments***

5. Applicant's arguments filed 1/29/02, paper number 6, have been fully considered but they are not persuasive.

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1. in page 3, 2<sup>nd</sup> paragraph, applicant argues that cited reference does not teach the adjustment of the segments is carried out at constant casting speed. Examiner respectfully disagrees. As understood by the applicant's disclosure and the conventionality of the continuous casting art, constant casting speed is either controlled at the output end or at the molten metal delivery section. An example, if the output end and the molten metal delivery have a speed of  $V_g$ , without changing the sectional width of the slab, then there will be a constant casting speed throughout the system. In this scenario, the sectional width is changed, therefore only one of the output end or the metal delivery speed can remain constant or else the strand will break. In the column 9, lines 14-56 of the cited prior art, applicant points out that '548 shows the speed to be

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changing. Examiner acknowledges that the speed is changed in order to compensate for the sectional width change, but remain constant to be  $V_g$ , as shown by '548 (col. 9, lines 14-56). In light of the above explanation, if the output end speed remains the same then the molten metal delivery speed has to be changed and vice versa. Therefore, with the broadest interpretation of the claimed invention as claimed, examiner interpret that cited prior art implicitly teaches the molten metal delivery to be constant resulting in the change of the output speed.

2. in page 4, 1<sup>st</sup> paragraph, applicant's argument is not in commensurate with the scope of the claim, since the claimed invention does not have a limitation of "each jointed connection can be advanced independently and therefore the adjusting speed can be different at each joint connection."

3. in page 5, 2<sup>nd</sup> paragraph, applicant argues that the cited prior art fail to teach the equation:  $V = D_s/L_s * V_{cast}$

However, Hohenbichler et al shows the usage of a control desk or a computer to position the support rollers. The equation described by applicant's invention is obvious since adjusting the segments would require the sectional change, length of the segment, and the current casting speed. Therefore, it would have been obvious to one of ordinary skill in the art at the time applicant's invention was made to provide the above equation in Hohenbichler et al's method to adjust the support rollers, since such parameters are essential in controlling the thickness of the metal strip.

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6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

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### ***Inquiry***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Len Tran whose telephone number is (703)605-1175. The examiner can normally be reached on M-F, 8:30 - 5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tom Dunn can be reached on 703-308-3318. The fax phone numbers for the organization where this application or proceeding is assigned are (703)305-3602 for regular communications and (703)305-3602 for After Final communications.



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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)308-0661.

Len Tran  
Examiner  
Art Unit 1725

LT  
March 7, 2002



M. ALEXANDRA ELVE  
PRIMARY EXAMINER